Short CV

Name	**KATHERINE SIAKAVARA** **http://rcl.physics.auth.gr/En/Staff/Siakavara.htm**
Position	Professor (Prof. Emeritus since 2024), Physics Department, ARISTOTLE UNIVERSITY OF THESSALONIKI
Studies	• PhD__ Physics Department, Aristotle University of Thessaloniki (1982) • MSc in Electronics, Physics Department, Aristotle University of Thessaloniki (1979) • B.Sc degree in Physics, Physics Department, Aristotle University of Thessaloniki (1977)
Scientific Expertise	**1977-1982:** Teaching-research assistant at the 3rd Laboratory of Physics, at Physics Department of Aristotle University of Thessaloniki **1982-1991:** Lecturer, Physics Department, Aristotle University of Thessaloniki **1991-2010:** Assistant Professor, Physics Department, Aristotle University of Thessaloniki **2010 – 10/2016:** Associate Professor, Physics Department, Aristotle University of Thessaloniki **10/2016 – 02/2022:** Professor, Physics Department, Aristotle University of Thessaloniki **04/2024 - today**: Professor Emeritus Physics Department, Aristotle University of Thessaloniki ➢ Member of the Radiocommunications' Laboratory Research Team **Memberships** _ Hellenic Physicists Society _ Institute of Electrical and Electronics Engineers (IEEE) _ European Association on Antennas and Propagation (EurAAP) _ Association for Computing Machinery(ACM) _ Applied Computational Electromagnetics Society (ACES)]

Research Interests and Objects of Research Activity	*Antennas for fix and mobile communication land networks and networks of satellite communications.*
	• Analysis, synthesis and study of antenna arrays, of microstrip antenna and complex radiators with analytic methods of electromagnetic theory , low and high frequency techniques, fractal techniques and Neural Networks.
	• Smart antenna systems(Switched and Adaptive antenna arrays) , Algorithms of Direction of Arrival(DoA) estimation, beamforming techniques and Neural Networks
	• Synthesis and study of antenna systems for portable devices, mobile communications Base Stations
	• Hybrid antennas integrated with (Electromagnetic Band Gap_EBG structures)
	• RFID system tags
	• Ambient RF power harvesting
	Microwaves
	• Wave Propagation in waveguides and microsterip structures.
	• Theoretical analysis, of electromagnetic wave propagation in Double Negative(DNG) media. Synthesis of microwave arrangements employing DNG or SNG(Single Negative) loads
	Radiowave propagation
	    Analysis with deterministic models and Neural Networks Algorithms
	Applied Electromagnetism
	    Application of electromagnetic theory and employment of specific techniques to the analysis and synthesis of radio-communication systems.

Research Activities	65 articles in peer-reviewed international journals 65 articles in peer-reviewed international conference proceedings - Contribution to international books: a)co-author in two book chapters b) single author of one book chapter ~1450 citations (without self citations) 1 Workshop(national) 2 Workshops (European) 9 National Conferences - Participation in 12 research projects - Reviewer in 7 international journals - Supervision of 51 postgraduate theses - Supervision of 79 undergraduate theses - Supervisor of four (4) doctoral dissertations (completed and their public presentation and evaluation took place) - Supervise the elaboration of two (2) postdoctoral research projects - Member of the three-member advisory committee of more than ten (10) doctoral dissertations that have been completed or are in progress - Member of a seven-member examination committee of more than twelve (12) PhD candidates inside and outside the Department. Physics.
Teaching Activity	- Teaching: four (4) undergraduate courses in the Department. Physics of the Aristotle University of Thessaloniki and five (5) postgraduate courses in the Postgraduate Program of Electronic Physics (Radio-electrical Engineering) of the Department. Physics of the Aristotle University of Thessaloniki - Organization-reform of the taught courses (entirely or collaboratively) - Co-author of two (2) university textbooks in Greek (and their modified reprints) - Notes for the lectures within the framework of the taught courses - Educational electronic-digital material for the online and offline taught courses
Scientific publications in international peer-reviewed journals (after 2010)	1. K. Siakavara, 'Novel fractal antenna arrays for Satellite Networks: Circular ring Sierpinski carpet arrays optimized by Genetic Algorithms', *Progress in Electromagnetic Research_PIER*, *ISSN: 1070-4698, E-ISSN: 1559-8985,* Vol. 103, pp. 115-138, 2010. doi:10.2528/PIER10020110 2. K. Siakavara, 'Hybrid-Fractal Direct Radiating Antenna Arrays with Small Number of Elements for Satellite Communications', *IEEE Trans. on Antennas and Propagation*, Vol. 58, No 6, pp. 2102-2106, June 2010. DOI: 10.1109/TAP.2010.20468 3. S. K. Goudos, K. Siakavara, E. E. Vafiadis, and J. N. Sahalos, 'Pareto optimal Yagi-Uda antenna design using multi-objective Differential Evolution', *Progress in Electromagnetic Research_PIER*, *ISSN: 1070-4698, E-ISSN: 1559-8985,* Vol. 105, pp. 231-251, 2010. doi:10.2528/PIER10052302 4. D. Pappas, S.K. Goudos , K. B. Baltzis and K. Siakavara , 'Design of optimum gain pyramidal horn using self-adaptive differential evolution algorithms', *Int. Journal of RF and Microwave Computer Aided Engineering*, Vol. 21, No 1, pp. 59-66, 2011 DOI: 10.1002/mmce.20487 5. Goudos, S. K., Siakavara, K. , Samaras, T., Vafiadis, E. E., Sahalos, J. N., 'Self-Adaptive Differential Evolution Applied to Real-Valued Antenna and Microwave Design Problems', *IEEE Transactions on Antennas and Propagation,* Volume: 59 , Issue: 4 , 1286 – 1298, 2011. DOI: 10.1109/TAP.2011.2109678 6. S. K.Goudos, K. Siakavara, T. Samaras, E.E. Vafiadis, J.N. Sahalos, 'Sparse Linear Array Synthesis with Multiple Constraints Using Differential Evolution with Strategy Adaptation', *IEEE Antennas and Wireless Propagation Letters*, Vol. 10, pp. 670-673, 2011 DOI: 10.1109/LAWP.2011.2161256 7. T. N. Kaifas, D. G. Babas, G. S. Miaris, K. Siakavara, E. Vafiadis, J. N. Sahalos, 'Aperiodic Array Layout Optimization by the Constraint Relaxation Approach', *IEEE Transactions on Antennas and Propagation*, Vol. 60, no 1, pp.148-163, 2012 DOI: 10.1109/TAP.2011.2167901

8. Athanasia Symeonidou and Katherine Siakavara, 'A novel microstrip antenna array with metamaterial-based electronic beam steering at 2.4GHz', *Progress In Electromagnetics Research C*, Vol. 38, 27-42, 2013
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9. Sotirios P. Sotiroudis, Sotirios K. Goudos, Konstantinos A. Gotsis, Katherine Siakavara, and John N. Sahalos, 'Application of a Composite Differential Evolution Algorithm in Optimal Neural Network Design for Propagation Path-Loss Prediction in Mobile Communication Systems', *IEEE Antennas and Wireless Propagation Letters*, Vol. 12, pp. 364-367, 2013.
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10. Goudos, S., Siakavara, K. , Vafiadis, E. , Sahalos, J., 'A Multi-objective approach to Subarrayed Linear Antenna Arrays Design based on Memetic Differential Evolution' , *IEEE Transactions on Antennas and Propagation*, vol. 61, no. 6, pp. 3042-3051, 2013.
DOI: 10.1109/TAP.2013.2254437

11. Sotirios K. Goudos, Katherine Siakavara, and John N. Sahalos, ' Novel Spiral Antenna Design Using Artificial Bee Colony Optimization for UHF RFID Applications', *IEEE Antennas and Wireless Propagation Letters*, Vol. 13, pp. 528-531, 2014 DOI: 10.1109/LAWP.2014.2311653

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18. Christos Mourtzios and Katherine Siakavara, ' A New Method of Driving Wire Dipole Antennas to Multiband Operation via Non-Uniform EBG Lattices for Employment to Wireless Communication Applications', Progress in Electromagnetics Research C, Vol. 67, 173–184, 2016
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